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We claim:

1. An immortalized cell line of murine hypothalamic neuronal cells comprising a gene encoding polyoma virus large T antigen operably linked to a promoter and expressing a marker selected from the group consisting of neuropeptide Y, gonadotropin-releasing hormone, growth-hormone releasing hormone (GHRH), TenM 1, 2, 3, 4, arginine vasopressin (AVP), thyrotropin-releasing hormone (TRH), SOCS-3, urocortin, melanocortin-concentrating hormone (MCH), orexin, dopamine transporter, corticotrophin-releasing factor (CRF), gonadotropin releasing hormone receptor, tryptophan hydroxylase, tyrosine hydroxylase, galanin, proopiomelanocortin (POMC), proglucagon, neurotensin, somatostatin, agouti-related protein, cocaine and amphetamine-regulated transcript (CART), leptin, oxytocin, corticotrophin-releasing factor receptor 1 and 2, aromatase, ghrelin, growth hormone secretagogue receptor, androgen receptor, estrogen receptor α , estrogen receptor β , leptin receptor, melanocortin-concentrating hormone receptor 3 and 4, neuropeptide Y receptor Y1, neuropeptide Y receptor Y2, calcitonin receptor like receptor, glucagon-like peptide 1 receptor, glucagon-like peptide 2 receptor (Glp-2 receptor), and neurotensin receptor.
2. A mixed cell population comprising the immortalized cell line of claim 1.
3. The immortalized cell line of claim 1 wherein the marker is Glp-2 receptor.
4. The immortalized cell line of claim 1 wherein the marker is neurotensin.
5. The immortalized cell line of claim 1 wherein the marker is proopiomelanocortin (POMC).
6. The immortalized cell line of claim 1 wherein the marker is neuropeptide Y (NPY).

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7. The immortalized cell line of claim 1 wherein the marker is proglucagon.

5 8. The immortalized cell line of claim 1 wherein the marker is growth-hormone releasing hormone.

9. The immortalized cell line of claim 1 wherein the marker is urocortin.

10 10. The immortalized cell line of claim 1 wherein the marker is melanocortin-concentrating hormone.

11. The immortalized cell line of claim 1 wherein the marker is TenM 4.

15 12. The immortalized cell line of claim 1 wherein the marker is growth hormone secretagogue receptor.

13. The immortalized cell line of claim 1 wherein the marker is ghrelin.

20 14. An immortalized cell line of claim 1 prepared by the method comprising:

- (i) preparing a culture of embryonic hypothalamic cells;
- (ii) infecting said culture with a retrovirus encoding a viral oncogene, operably linked to a promoter and a selectable marker;
- 25 (iii) isolating transfected cells from non-transfected cells to obtain a culture of immortalized hypothalamic cells;
- (iv) subcloning said immortalized cells into sub-cloned populations;
- (v) screening said subcloned populations for expression of specific neuronal markers; and
- 30 (vi) selecting and further cloning a specific population.

15. A method of obtaining a neuropeptide comprising, culturing the cell line of claim 1 that is known to express said neuropeptide and isolating the expressed neuropeptide.

- 5 16. A method for identifying a modulator of a neuropeptide comprising:
- (i) providing a cell line as defined in claim 1;
 - (ii) incubating the cell line in the presence of the candidate modulator; and
 - (iii) determining the biological effect of said candidate modulator,
- 10 wherein said candidate is a modulator if it modulates the neuropeptide expression and/or activity.

17. The method of claim 15 wherein said effect of said candidate modulator can be determined by one of the following methods:

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- (a) monitoring effects on neuropeptide expression;
 - (b) incubating the said cell line with a substrate of a neuropeptide and monitoring the effect on substrate metabolites;
 - (c) binding assays; or
 - (d) proteomic profiling in the presence and absence of the said
- 20 candidate modulator.

18. An immortalized cell line of murine hypothalamic neuronal cells that is responsive to a teneurin C-terminal-associated peptide [TCAP].

- 25 19. The cell line of claim 16 wherein the teneurin C-terminal-associated peptide is selected from the group consisting of SEQ ID NOs 1-9.

20. The cell line of claim 16 wherein the teneurin C-terminal-associated peptide is murine TCAP-1 or TCAP-3.

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21. The cell line of claim 16 wherein the cell line is selected from the group consisting of N-7, N-22, N-29 and N-38.